

1/10

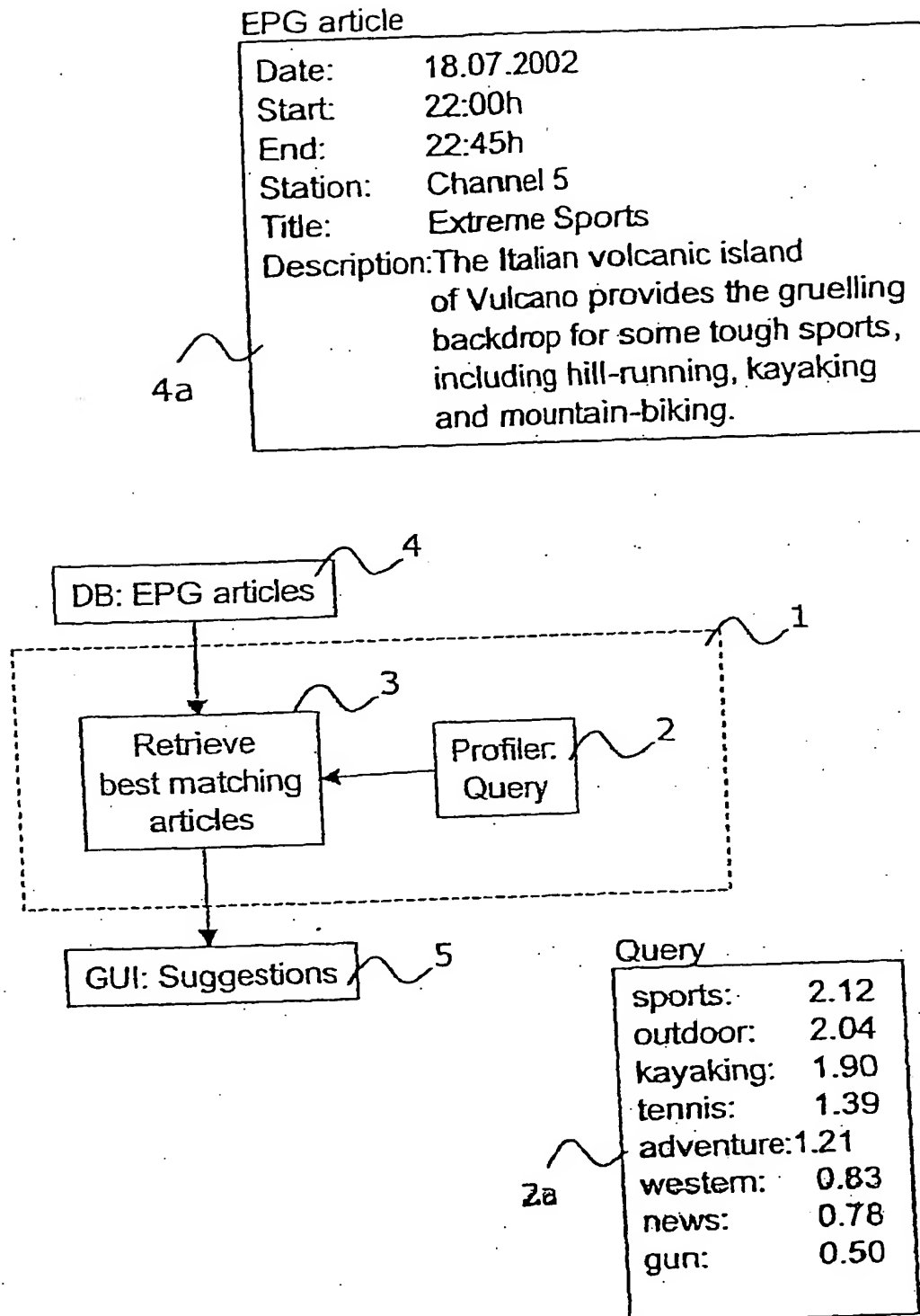


Fig. 1

2/10

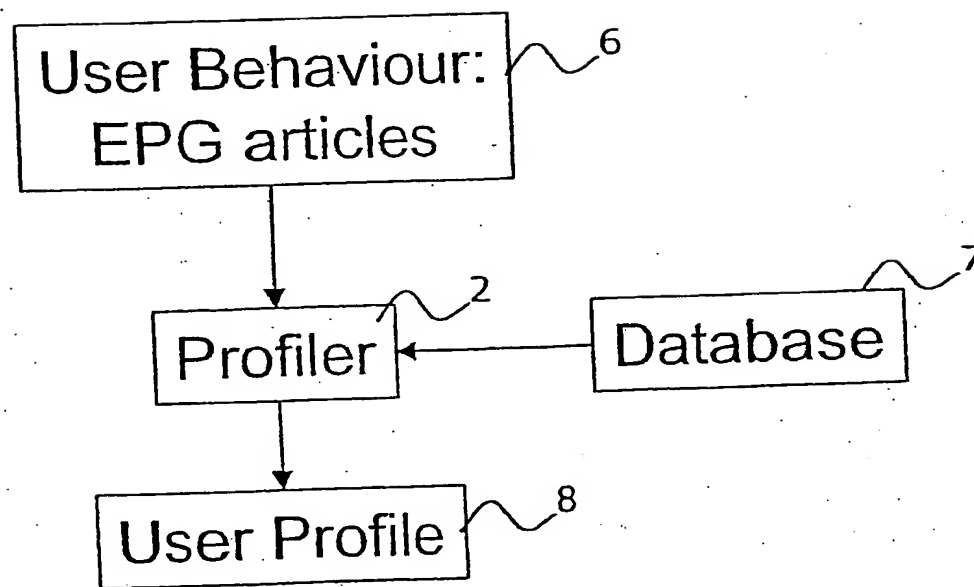


Fig. 2

3/10

Fig. 3a

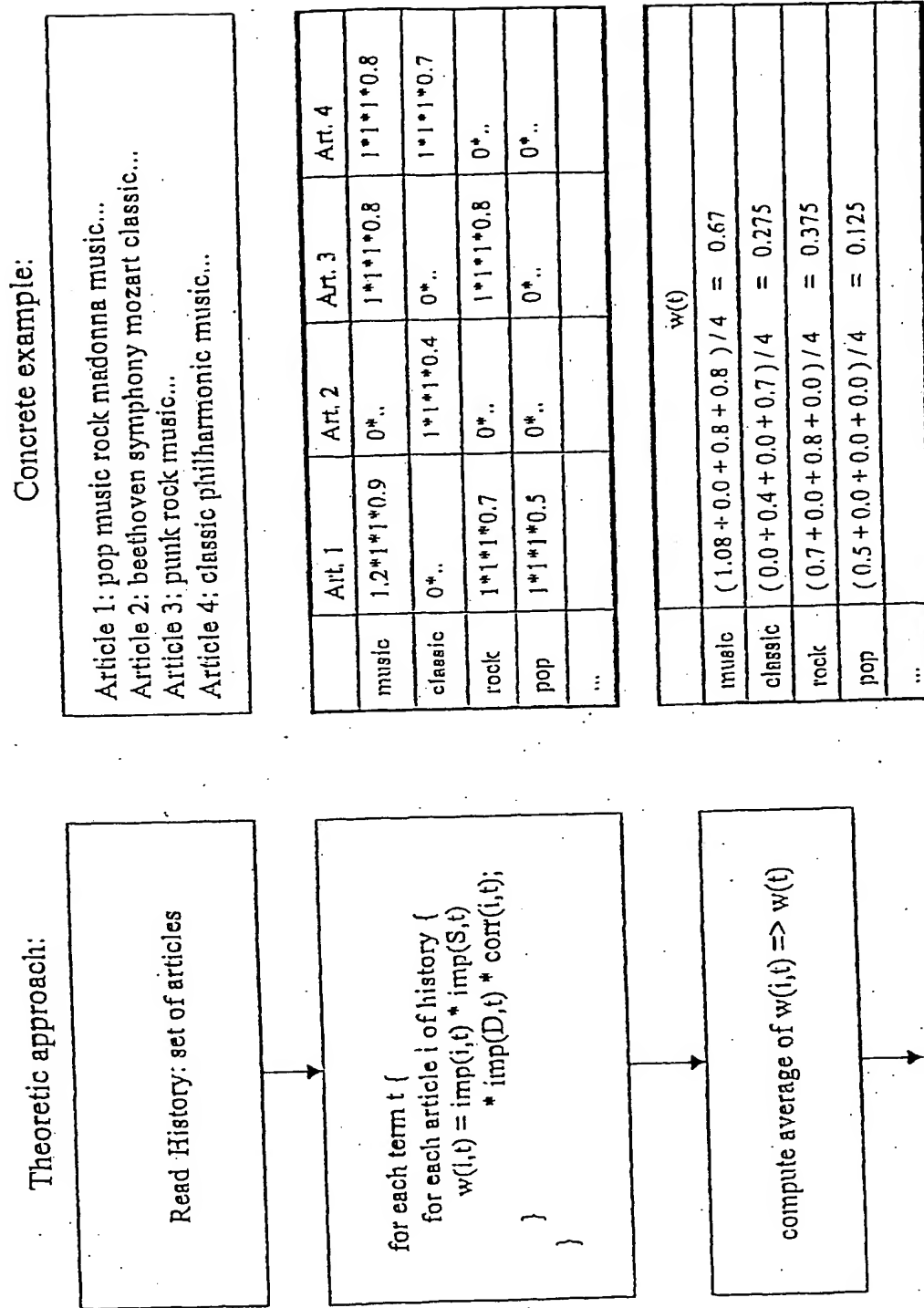


Fig. 3b

Concrete example:

...



UserProfile = Set of all terms of the history
with weights

music 0.67
rock: 0.375
classic 0.275
pop 0.125
...

4/10

For simplicity the following function is used :

$$w_i(t) = (1 + \frac{1}{2} \log(\frac{f_{i,t}}{f_i} + 1)) * 1 * (\frac{f_{i,t}}{f_{i,t} + \sqrt{f_i} / \text{avg}(\sqrt{f_i})})$$

Fig. 3c

Concrete example:

...		
Article i:	classic music..	=> 0.945
...		
Article j:	rock music..	=> 1.045
...		
Article k:	british music..	=> 0.67
...		

Theoretic approach:

```

for each Article in Database {
  compute modified OKAPI weight
  with User Profile.
}

```

For reasons of simplicity, the function

$$OKA_{modified}(q, i) = \sum_{(q \wedge i)} w(i) * 1 * 1$$

Is used, where q is the profile and i the article of the data base.

6/10

Fig. 4a

Available profiles

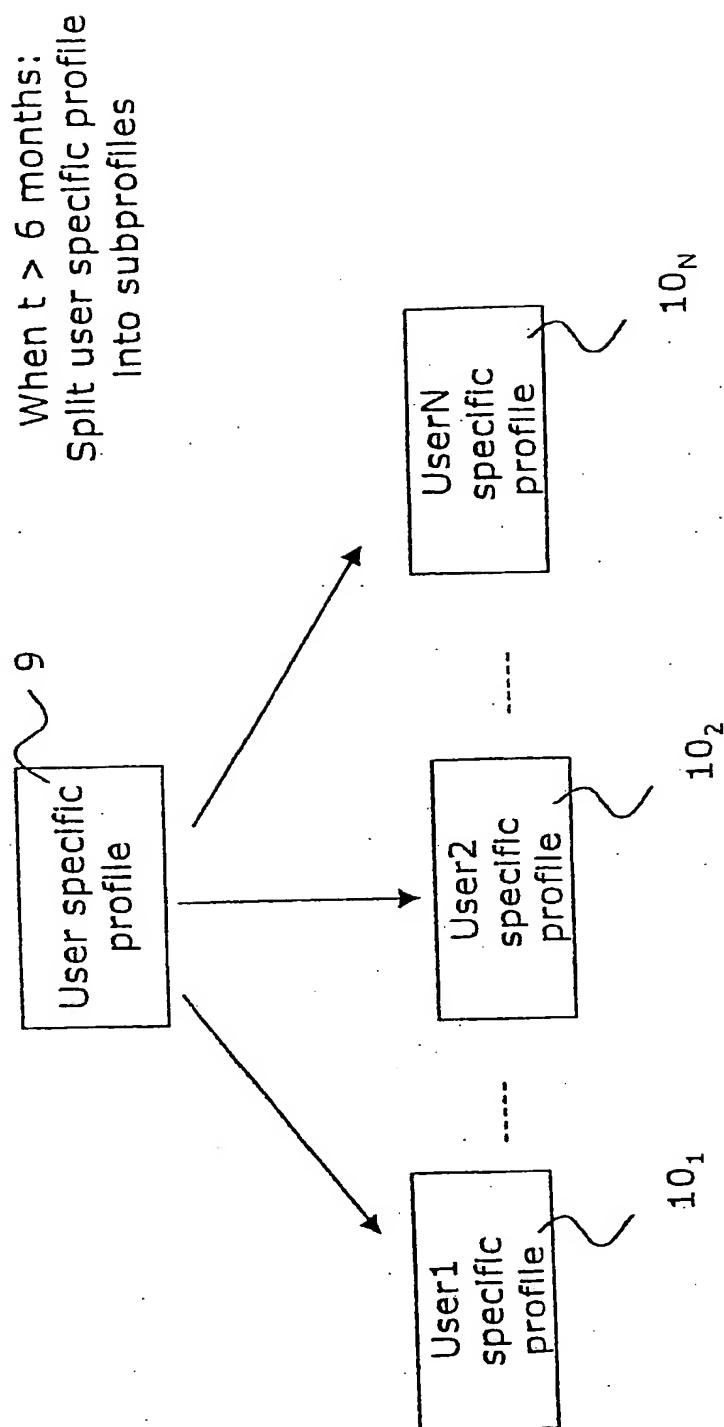
Associated weights

News profile	Sport Profile	Thriller profile	Classical Music	Generic /average user profile	User Specific	
0	0	0	0	1.0	0	Start, $t = 0$
0	0.03	0.01	0.06	0.9	0	After $t = a$ few hours
0.03	0.09	0.01	0.07	0.7	0.1	After $t = 1$ day
0.05	0.1	0.05	0.2	0.1	0.5	After $t = 1$ week
0	0	0	0	0	1	After $t =$ several months

Watching time t

7/10

Fig. 4b



8/10

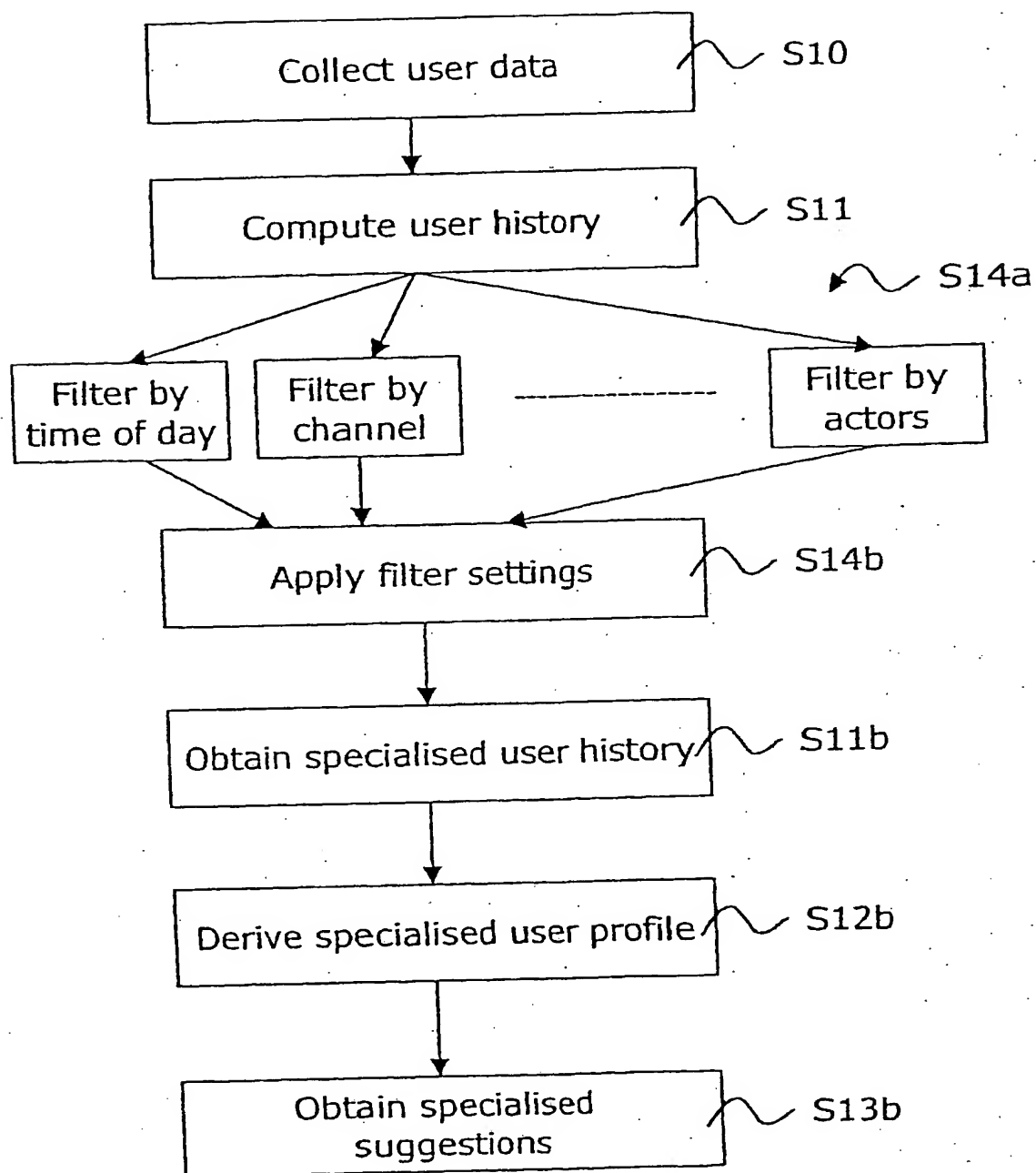


Fig. 5a

9/10

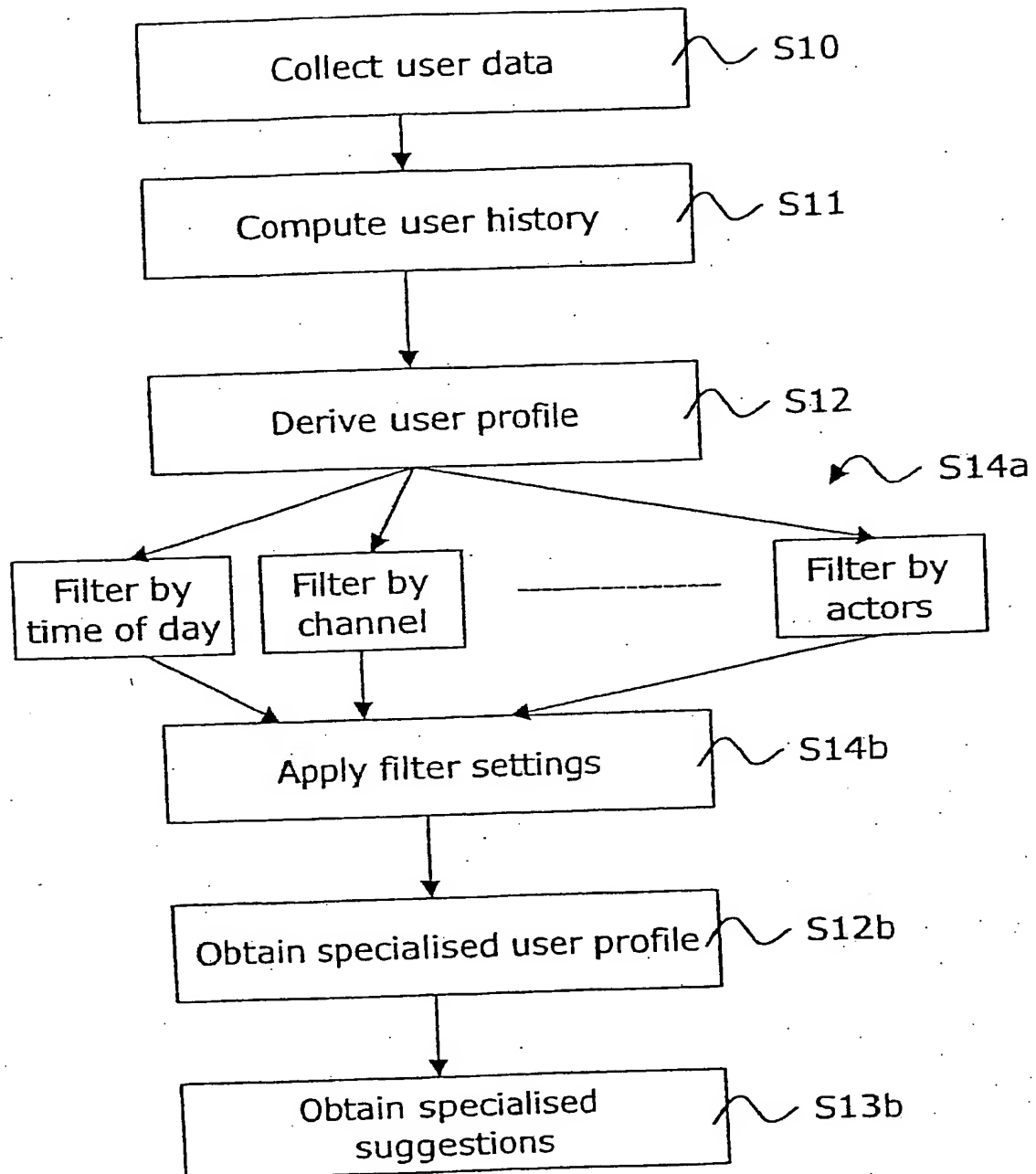


Fig. 5b

10/10

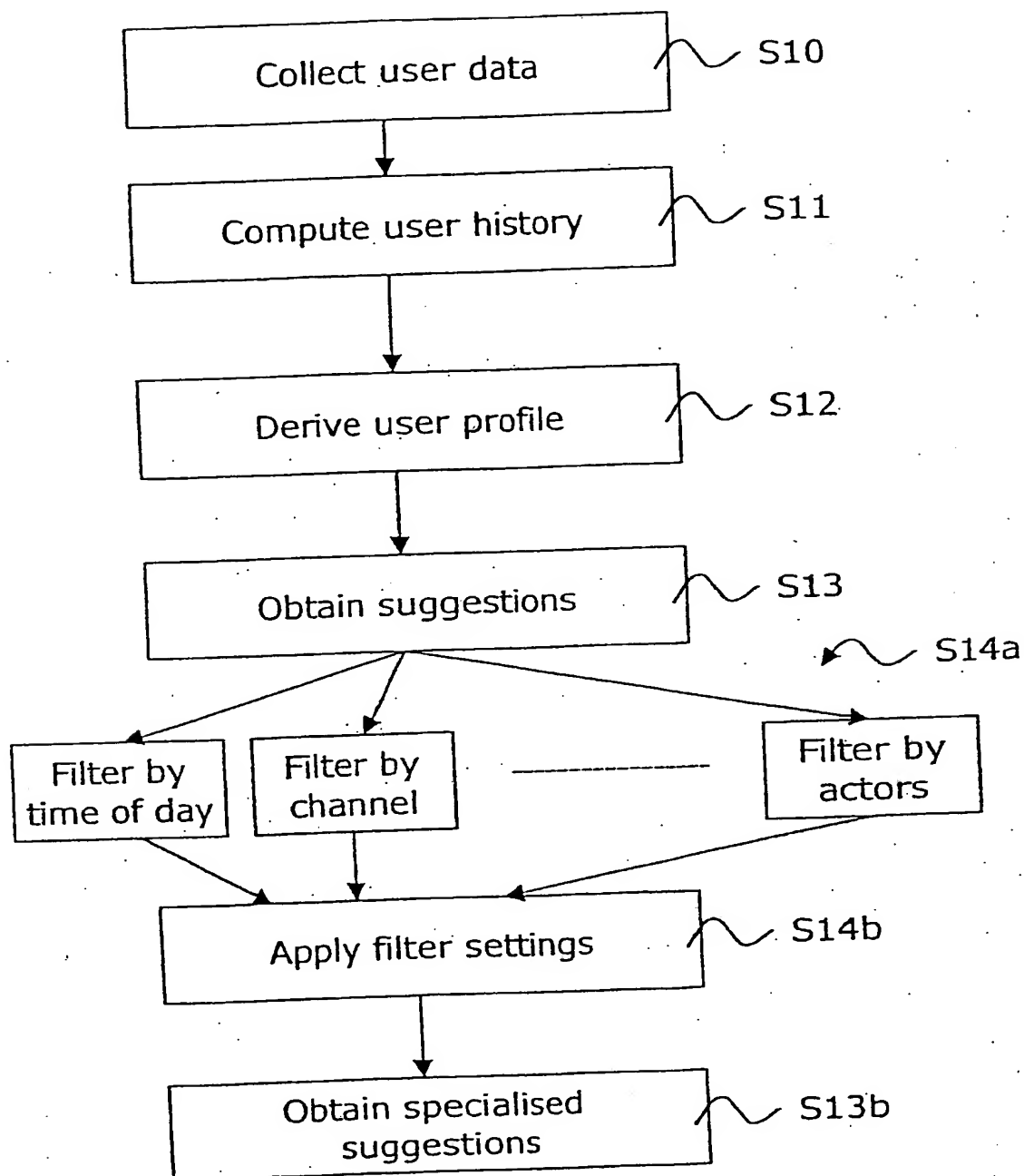


Fig. 5c